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# Translation and adaptation of a questionnaire to assess the group processes of rehabilitation team conferences

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**Objective:** To investigate the internal consistency, the domain structure and the influence of social desirability with regard to a questionnaire translated and adapted to assess the quality of rehabilitation team conferences in the Netherlands.

**Study design:** A questionnaire to determine group decision-making processes was translated and adapted to rehabilitation and completed by 44 rehabilitation professionals.

**Results:** The internal consistency of the domains Personal participation, Negative socio-emotional behaviour, Result satisfaction and Process satisfaction was found to be satisfactory (Cronbach's  $\alpha$  ranges from 0.70 to 0.84). The domain structure is confirmed by item-total and item-rest correlations. From the original English questionnaire, one question concerning the domain Personal participation was omitted. The domain Informal leadership has been deleted from the questionnaire, because informal leadership is not an issue in a situation in which the Chairman is already known. Response to the questionnaire did not seem to be biased by social desirability.

**Conclusion:** The translated and adapted questionnaire can be used to assess the group processes of rehabilitation team conferences. Results from the literature concerning the original questionnaire suggest that the translated and adapted questionnaire might be able to detect changes in the group process of rehabilitation team conferences.

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## Introduction

In rehabilitation, professionals work together in teams. In the frequently quoted article by Melvin,<sup>1</sup> two different team approaches have been described. In a multidisciplinary team, professionals merely work towards their own goals; in contrast, in an interdisciplinary team, professionals work together towards shared rehabilitation goals. The interdisciplinary approach is preferable, since it is expected to achieve an optimal outcome.<sup>1-5</sup> To work as an interdisciplinary team, the individual members must interact with each other. For this reason, team members meet regularly in a formal setting, the team conference, to discuss the treatment of an individual patient.

Recently, a project was initiated to promote interdisciplinary team conferences in Dutch paediatric rehabilitation departments. To investigate whether the project improved the team conferences, a search was made for a self-report measure with which to assess the quality of the team conferences. As the perceived quality of a team conference is assumed to be related to the interaction between members of the team, the measure should be able to assess both the quality of the team conferences and the interaction between the team members that takes place during conferences.

After an extensive literature search, an English self-report questionnaire was found, which determined group decision-making processes on the basis of the following five domains: (1) the extent to which an individual participated in the discussion (Personal task participation); (2) the extent to which team members behaved negatively towards each other (Negative socio-emotional behaviour); (3) the amount of satisfaction concerning the solution which resulted from the discussion (Solution satisfaction); (4) the amount of satisfaction concerning the discussion process (Decision scheme satisfaction); and (5) the extent to which informal leaders automatically emerged (Informal leadership).<sup>6</sup> The questionnaire consists of 23 questions, scored on a five-point scale.

In the original study the questionnaire was used to compare the effects of three different decision schemes on the group process. Groups consisted of 3–6 students. In one decision scheme

the group decision had to be arrived at by consensus, in the other two schemes the group decision was based on different individual voting systems.

During the rehabilitation team conference the entire group has to decide about treatment goals, so a team conference can be considered as a group decision-making process. Interdisciplinary and multidisciplinary team conferences demand different decision schemes. During interdisciplinary team conferences, team members have to achieve consensus about the goals. In contrast, during multidisciplinary conferences, team members only inform others about their own disciplinary goals. The objective of the questionnaire is to discriminate between these two approaches. Compared to the multidisciplinary team conferences, the interdisciplinary team conferences are expected to result in higher scores on Personal task participation and Solution satisfaction. The domain Informal leadership is possibly not relevant, since rehabilitation team conferences usually have a formal leader.

The questionnaire developed by Green and Taber<sup>6</sup> was translated into Dutch, and adapted to conform with the terminology customary in the field of rehabilitation. The present article describes the translation and adaptation of the original questionnaire for use as an indicator of the quality of rehabilitation team conferences. Furthermore, the psychometric evaluation of the questionnaire is described.

## Methods

### Translation and adaptation

The original English questionnaire developed by Green and Taber<sup>6</sup> was translated independently by two separate individuals into Dutch, after which a consensus meeting was held. Subsequently, the consensus version was retranslated by a third person (professional translator) into English. Only minor discrepancies were found between the retranslated version and the original text, resulting in amendments in the Dutch text. The questionnaire was then adapted to the terminology of rehabilitation team conferences. Unlike the English version, which consists of statements, the Dutch version contains questions.

The sequence of the questions was subsequently randomized to encourage the respondents to scrutinize each individual question separately. Finally, a draft questionnaire was submitted to six rehabilitation professionals for assessment, after which the first version was compiled (see Appendix).

### **Study design**

The translated and adapted questionnaire was distributed among all professionals involved in the treatment of either children (0–18 years) or their parents, in one rehabilitation centre ( $n = 47$ ). The professionals were not involved in the project to improve team communication or in the translation and adaptation of the questionnaire.

The answers to the questionnaire had to be related to the most recent rehabilitation team conference in which the professional had participated. In the rehabilitation centre studied, the team conference normally lasts for 30 minutes during which the professionals involved and the parents discuss the treatment of an individual child.

Responses of the professionals can be biased by social desirability.<sup>7</sup> Professionals could respond in accordance with what they think is socially expected instead of giving 'honest' answers. Social desirability was assessed by means of a scale composed by Hermans,<sup>8–10</sup> containing 26 items which are scored on a two-point scale. A social desirability sum score was calculated by counting the number of socially desirable answers and dividing the total by the total number of questions answered.

### **Data analysis**

#### *Domain score*

A mean score was calculated for each domain. A high score indicates that the described behaviour often occurs during a conference (domains 1, 2 and 5) or that satisfaction is high (domains 3 and 4).

#### *Internal consistency*

For every domain, Cronbach's  $\alpha$  was calculated as a measure of internal consistency (or homogeneity).<sup>11</sup> A high  $\alpha$ -value indicates that the items in that domain assess approximately the same aspect. Items are to be discarded if this results in

a meaningful increase in  $\alpha$ . Streiner and Norman<sup>7</sup> recommend a value of Cronbach's  $\alpha$  between 0.70 and 0.90 for a domain to be assumed internally consistent.

### *Confirmation of the domain structure*

In order to confirm the predesigned domains, the items must correlate significantly with the domain to which they belong. Moreover, this correlation should be stronger than the correlation with any of the other domains to which the item does not belong.<sup>7</sup> To calculate the correlation between the item and its own domain, the domain score was calculated, omitting that particular item. Spearman's rank-order correlation coefficient ( $r_s$ ) was used. Correlations were submitted to a two-tailed test, with 0.05 as level of significance. Finally, the domain scores were correlated with each other. These correlations were calculated by means of Pearson's product-moment correlation coefficient ( $r$ : two-tailed,  $p < 0.05$ ).

### *Social desirability*

To assess the potential influence of social desirability on the answers given by the professionals, the score for social desirability was correlated with each of the five domain scores (Pearson's product-moment correlation coefficient ( $r$ ); two-tailed,  $p < 0.05$ ). If a high and significant correlation coefficient is found, this suggests that the professionals respond in accordance with what they think is socially expected of them.<sup>7,8</sup>

## **Results**

### **Respondents**

The questionnaires were completed by 44 professionals: 35 women and 9 men. Three professionals did not respond. Among the 44 professionals there were 8 occupational therapists, 11 physical therapists, 4 speech therapists, 3 social workers, 3 psychologists, 9 remedial teachers, 5 physicians and 1 rehabilitation nurse. For one person the score on the social desirability questionnaire could not be determined because of missing values.

### Internal consistency

Table 1 presents the results of the internal consistency analysis. The value of Cronbach's  $\alpha$  ranges from  $\alpha = 0.54$  (Informal leadership) to  $\alpha = 0.84$  (Process satisfaction). The question 'Did you make suggestions or remarks about the proceedings of the conference' (originally question 1.1, Appendix) has been deleted from the domain Personal participation. This results in a rise in Cronbach's  $\alpha$  from 0.59 to 0.70. The exclusion of this question is justified by the prearranged structure of a rehabilitation team conference, which implies that remarks about the proceedings are not a sign of (positive) personal participation.

### Confirmation of the domain structure

Twenty out of the twenty-three items correlated significantly with their own domain score. Only one of the three items which did not correlate significantly with its own domain score ( $r_s = -0.05$ ,  $p = 0.75$ ), correlated more strongly with another domain. This question is the one that has been deleted from the domain Personal participation (originally question 1.1, Appendix).

One of the two other questions which did not correlate significantly with its own domain score ( $r_s = 0.25$ ,  $p = 0.10$ ) is also an item of the domain Personal participation (question 1.5, Appendix). After omitting question 1.1, question 1.5 correlates significantly with its own domain score ( $r_s = 0.58$ ,  $p < 0.01$ ). The other question which does not correlate significantly with its own domain

score refers to Informal leadership ( $r_s = 0.23$ ; question 5.1, Appendix). However, this question correlated even less strongly with the other domains.

The correlation between the five domain scores is shown in Table 2. The domain Personal participation does not correlate significantly with any of the other domain scores after excluding question 1.1 (see Appendix). Correlations between the domain Process satisfaction and the three remaining domains are stronger than 0.40, implying a moderate correlation. Correlations between the three remaining domains are significant ( $p < 0.05$ ), although weak ( $r < 0.40$ ).

### Social desirability

None of the domain scores of the questionnaire correlated significantly with the score for social desirability ( $r$  ranges between  $-0.15$  (Personal participation) and  $0.04$  (Process satisfaction)).

## Discussion

### Domain structure of the translated and adapted questionnaire

In the present study, four of the five domains in the adapted questionnaire are similar to the domains in the original questionnaire, with regard to their internal consistency and the analyses to confirm the domain structure.

**Table 1** Distribution of scores, internal consistency and confirmation of the domain structure

Domain	$N_q$	$\bar{x}$	SD	$\alpha$	$N_q$ that correlated:	
					significantly with their own domain score	equally or stronger with other domains
Personal participation	5	3.43	0.56	0.59	3	1
	4 <sup>a</sup>	3.10 <sup>a</sup>	0.63 <sup>a</sup>	0.70 <sup>a</sup>	4 <sup>a</sup>	0 <sup>a</sup>
Negative socio-emotional behaviour	5	1.38	0.63	0.78	5	0
Result satisfaction	5	3.93	0.47	0.76	5	0
Process satisfaction	5	4.00	0.67	0.84	5	0
Informal leadership	3	2.02	1.13	0.54	2	0

Number of questions ( $N_q$ ), distribution of scores (means ( $\bar{x}$ ) and standard deviations (SD)), internal consistency ( $\alpha$ ).

<sup>a</sup>Values for the domain Personal participation after omission of question 1.1.

Explanation of domain content: see Appendix.

**Table 2** Correlation between the domains of the questionnaire using Pearson's product-moment correlation coefficient (*r*)

Domain	Personal participation	Negative socio-emotional behaviour	Result satisfaction	Process satisfaction
Negative socio-emotional behaviour	0.38* 0.21 <sup>a</sup>			
Result satisfaction	0.20 0.28 <sup>a</sup>	-0.37*		
Process satisfaction	-0.38* -0.20 <sup>a</sup>	-0.74**	0.55**	
Informal leadership	0.23 0.05 <sup>a</sup>	0.39*	-0.31*	-0.52**

<sup>a</sup>Values for the domain Personal participation after omission of question 1.1.

\*Correlations with  $p < 0.01$ ; \*\*correlations with  $p < 0.001$ .

*Domain Personal participation*

One question was omitted from the domain Personal participation. The final version contains an amendment of this omitted question (see Appendix), which is expected to come closer to the objective of the original question.

*Domain Informal leadership*

Cronbach's  $\alpha$  of the domain Informal leadership is low ( $\alpha = 0.54$ ). However, in the original questionnaire a low value of  $\alpha$  was also found ( $\alpha = 0.43$ ).<sup>6</sup> The low internal consistency of this domain can, to some extent, be explained by the fact that this domain contains only three questions with two answer-categories, in contrast to the others which all contain five questions with five answer-categories. However, low internal consistency might also result from the fact that rehabilitation team conferences in this setting have a formal leader. We concluded that the domain, as designed in the original questionnaire,

is not useful in evaluating informal leadership in a rehabilitation team conference with a formal leader. Consequently, the domain has been omitted from the questionnaire.

*Correlations between domains*

Significant correlations between the domains Process satisfaction and Negative socio-emotional behaviour suggest that team members are more satisfied with the process when there is no negative behaviour towards each other. The significant correlation between Process satisfaction and Result satisfaction implies that the satisfaction of team members is strongly correlated with the process of the team conference and with the results of the conference.

The correlation between Process satisfaction and Negative socio-emotional behaviour confirms the anticipated relationship between the perceived quality of the team conference and the interaction between team members. Team processes, including interaction patterns, are shown to be related to team performance.<sup>12</sup> The existence of a relationship between Process satisfaction and Result satisfaction is confirmed by the findings of Jelles *et al.*,<sup>13</sup> who concluded that professionals do not distinguish between different aspects of a team conference, but that they judge team conferences as a whole.

**Clinical messages**

- We present a useful questionnaire to evaluate rehabilitation team conferences.
- Evaluation of rehabilitation team conferences is needed to investigate the preference for the interdisciplinary team approach.



### Final version of the questionnaire

The final version consists of four domains (see Appendix). A confirmative factor analysis could not be performed due to the relatively small number of respondents. Further research with a larger sample size is desirable. However, internal consistency is satisfactory, with Cronbach's  $\alpha$  varying between 0.70 and 0.84. Item-rest and item-total correlations confirmed the domain structure.

If in contrast to our situation, the chairman of the team conference is not pre-designated, the fifth factor of the questionnaire, Informal leadership, could be useful. However, research is necessary to assess the internal consistency of this factor.

### Evaluation of rehabilitation team conferences

The original English questionnaire was used in a study to compare the effects of three different decision schemes on the group process. Repeated measures analyses of variance revealed that the decision schemes did affect several of the process variables (Personal task participation, Negative socio-emotional behaviour and Informal leadership).<sup>6</sup> Therefore, it is expected that the questionnaire will be able to detect changes in the group process when the decision scheme of a rehabilitation team conference changes.

The questionnaire is presently being used to evaluate a project to improve team communication by introducing a more interdisciplinary team approach. In the interdisciplinary team conferences strong interaction among team members is needed to achieve shared problem formulation and shared rehabilitation goals.<sup>3,14</sup> Therefore, the transition from a multidisciplinary to an interdisciplinary team approach is expected to result in an increase in the scores for Personal participation, Result and Process satisfaction, and a decrease in the score for Negative socio-emotional behaviour.

For future research, a larger sample is needed to perform confirmative factor analysis. In addition, other psychometric properties such as reliability, validity and responsiveness must be studied before the questionnaire can be used on a wider scale. Also the use of the questionnaire by parents participating in team conferences could be evaluated.

### Acknowledgements

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## Appendix – Final version of the questionnaire

### Instruction

The questions must be answered in relation to the most recent team conference you attended (the conference in which the treatment of an individual child was evaluated). In the questionnaire, the expression ‘team participants’ is used. Team participants are all persons who were present during the most recent team conference (professionals and parents). The term ‘treatment plan’ refers to the result of the conference, i.e. the treatment plan as formulated during the conference.

### Questions

- 1) Personal participation
  - 1<sup>1</sup>. Did you make suggestions about the way in which the treatment plan can be accomplished?<sup>a</sup>
  - 2<sup>1</sup>. Did you ask for suggestions from other team participants?
  - 3<sup>1</sup>. Did you provide information about the situation/opportunities of the patient?
  - 4<sup>1</sup>. Did you ask others about their ideas and opinions?
  - 5<sup>1</sup>. Did you pay attention to, and show interest in the contribution of other team participants?<sup>b</sup>
- 2) Negative socio-emotional behaviour
  - 1<sup>1</sup>. Did others express a negative opinion about your behaviour?
  - 2<sup>1</sup>. Did you reject other people’s opinions or suggestions?
  - 3<sup>1</sup>. Did others reject your opinions or suggestions?
  - 4<sup>1</sup>. Did you express negative opinions about anyone’s behaviour?
  - 5<sup>1</sup>. Did you feel frustrated or tense about other people’s behaviour?
- 3) Result satisfaction
  - 1<sup>2</sup>. How satisfied are you with the quality of the treatment plan?
  - 2<sup>1</sup>. To what extent are you confident that the treatment plan is appropriate?
  - 3<sup>1</sup>. To what extent do you feel committed to the treatment plan?
  - 4<sup>1</sup>. To what extent does the final result reflect your contribution?
  - 5<sup>1</sup>. To what extent do you feel personally responsible for the appropriateness of the treatment plan?
- 4) Process satisfaction
 

How would you describe the conference?

  - 1<sup>3</sup>. efficient – inefficient
  - 2<sup>3</sup>. coordinated – uncoordinated
  - 3<sup>3</sup>. fair – unfair
  - 4<sup>3</sup>. confusing – understandable
  - 5<sup>3</sup>. satisfying – dissatisfying

### Item ratings

- (<sup>1</sup>) Items rated on a five-step agree–disagree scale, with the following anchors: 1 = not at all; 2 = to a little extent; 3 = to some extent; 4 = to a great extent; 5 = to a very great extent.
- (<sup>2</sup>) Items rated on a five-step satisfied–dissatisfied scale, with the following anchors: 1 = very dissatisfied; 2 = somewhat dissatisfied; 3 = neither dissatisfied nor satisfied; 4 = somewhat satisfied; 5 = very satisfied.
- (<sup>3</sup>) Items rated on a five-step semantic differential scale, with the anchors given in the text. (High scores correspond with the positive aspect of each pair of anchors.)

### Notes

<sup>a</sup>In the first version this question was formulated as ‘Did you make suggestions or remarks about the proceedings of the conference?’. This question did not correlate significantly with its own domain score, and correlated equally or stronger with three of the other domains. The question as formulated in the final version has not been included in the present psychometric evaluation.

<sup>b</sup>In first instance, this question did not correlate significantly with its own domain score. After omitting question 1.1, question 1.5 did correlate significantly with its own domain.

**Informal leadership:** The domain 'Informal leadership' in the first version of the adapted questionnaire consisted of the following questions: (5.1) 'Did anyone emerge as an information leader?' (Yes = 5; No = 1) (Question did not correlate significantly with its own domain); (5.2) 'Did you feel that one person influenced the final result of the conference more than the others?' (Yes = 5; No = 1); (5.3) 'Did one or two team participants strongly influence the final treatment plan?' (1 = not at all; 2 = to a little extent; 3 = to some extent; 4 = to a great extent; 5 = to a very great extent).

A copy of the Dutch version of the questionnaire is available on request from the first author.

*Note:* This version is the modified version of the original English questionnaire. It was retranslated from Dutch into English.